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630 FIFTH AVENUE
NEW YORK, N.Y. 10020

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Dr. Mahlon B. Hoagland
President and Scientific Director
The Worcester Foundation for
Experimental Biology
Shrewsbury, Massachusetts 01545

Dear Dr. Hoagland:

I would like to comment on your recent paper entitled "Cancer's Nemesis: Research or Bureaucracy?" At the outset, let me make one thing clear--there is no difference between you and me about the importance of basic research in the cancer program. However, I disagree with the assumption in your paper and the statement in your letter that the cancer program "which [I] have had such a hand in molding, seems rather poorly to reflect this philosophy...and under [my] strong influence seems to be steadily moving in the opposite direction." The facts do not bear out this position.

If there has been any single overriding principle for which I have stood during my years as Chairman of the President's Cancer Panel it has been the essentiality of the strong support of basic research. The programs, the allocation of funds, the selection of personnel and the manner of administering the program have all borne this out. An analysis of the overall dollar figures indicates that over one half the cancer budget in 1976 and over one half the total increases in that budget from 1972 through 1976 have been expended for the support of basic research. I am talking about Regular Research Grants, that portion of the Program Project Grants related to basic research, that portion of the Training, Fellowship, Core, and Construction Grants related to basic research, that portion of the Task Force expenditures related to basic research, that portion of the Cancer Research Emphasis Grants and Research Contracts related to basic research, that portion of the Research Support Contracts related to basic research and the basic research portion of the Intramural Program plus a pro rata allocation of overhead.

Let us take a few examples selected at random. Starting with

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your own institution, in 1971, prior to the passage of the National Cancer Act, Worcester Foundation received \$31,000 in grants from the National Cancer Institute. In 1972, the amount was \$465,000 (plus an additional \$400,000 Construction Grant). In 1973, it was \$792,000; in 1974, \$977,000; in 1975, \$1,203,000; and, in 1976, \$1,221,000. Therefore, the support of basic research at your Institute has increased at a much greater rate than the National Cancer Program as a whole. At Cold Spring Harbor, devoted exclusively to basic research, support has gone from \$489,000 in 1971 to \$1,378,000 in 1972; \$1,442,000 in 1973; \$1,685,000 in 1974; \$1,794,000 in 1975; and \$1,946,000 in 1976. Basic research support at Scripps Institute has gone from \$252,000 in 1971 to \$395,000 in 1972; to \$726,000 in 1973; to \$1,010,000 in 1974; \$1,337,000 in 1975; and \$1,611,000 in 1976. During the same period, Contract support for basic research at Scripps Institute went from 0 to \$1,511,000, and that institution in 1972 received \$2,887,000 as a Construction Grant. Grant support for basic research at M.I.T. was \$776,000 in 1971, \$1,079,000 in 1972; \$1,375,000 in 1973; \$2,518,000 in 1974; \$3,487,000 in 1975; and \$4,000,000 in 1976. During that same period, Contract support went from \$378,000 in 1971 to \$913,000 in 1976, and M.I.T. received \$3,150,000 of Construction support in 1973 and \$3,441,000 of Construction support in 1976. These institutions were selected at random because they are devoted almost exclusively to basic research.

Similar increases in the support of basic research were taking place at institutions all over the country, all as determined by peer review. In 1976, the NCI spent \$396 million on basic research compared to less than \$100 million in 1970. If you wish to pick any institution or group of institutions where you think the basic research in cancer is of the highest excellence, I will be glad to supply you the figures indicating the support of that institution by NCI during the past five years.

My original recommendations to the President for the National Cancer Advisory Board included among the twelve scientific and professional members to be appointed the following: Dr. Frank Dixon, Dr. John Hogness, Dr. Howard Skipper, Dr. Harold Amos, Dr. Irving London, Dr. Harold Rusch, Dr. Sol Spiegelman, and Dr. James Watson. The other professional appointments were Dr. Jonathan Rhoads, Dr. Sidney Farber, Dr. Gerald Murphy and Dr. Wendell Scott. The lay appointees included Dr. Frederick Seitz and Dr. Clark Wescoe. Subsequent professional appointees have included Dr. Henry Pitot, Dr. Bruce Ames, Dr. Gerald Wogan, Dr. Werner Henle, and I

have currently recommended for a vacancy on the Board Dr. David Hogness.

Is this a lineup which would have been chosen if I had had in mind "moving in a direction opposite to that which I espouse in the TRENDS statement?" I recommended as one of three members of the original Cancer Panel Dr. Robert Good and, when his term expired, Dr. Ray Owen and, when his term expired, Dr. Paul Marks. All of these men are ardent supporters of the importance of basic research, as am I. I believe that you went to a meeting made up largely of clinicians who talked about their area of interest and found the atmosphere depressing. I get similar letters from clinicians who are depressed by the lack of emphasis on clinical science when they attend basic science seminars.

Obviously, at the same time we are attempting to extend our knowledge through the support of basic research, we must do everything possible to provide the best of which we are capable today in prevention, diagnosis, care and rehabilitation. This means the support of clinically oriented research, also selected by the best possible peer review for excellence. There is clearly not enough money to support all the research we would like to support either basic or clinical, but it is my belief that the balance has been maintained pretty well.

It is also my belief that the 19 Comprehensive Cancer Centers that have been recognized are on the whole excellent institutions doing an excellent job in both areas of research. Most of them are contributing very substantially to both the fundamental research side and the clinical side. They are, in my opinion, far from deserving of the description that they represent an "NCI-created bureaucracy which is a self-replicating monster."

I am sorry that you judged the Cancer Program by what you heard at one meeting rather than by a study of the support, of the institutions to which it has gone, and of the purposes for which it has been used. I hope we will continue to receive some increases in funding so that we can more adequately support both fundamental research and research directed at doing a better job for the cancer patient today. Meanwhile, we have been cutting back on Construction Grants, Contracts, and other areas in an effort to maintain the grant support of basic research at the highest possible level.

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I assure you that I am answering just as many letters from clinically oriented researchers complaining about the imbalance in favor of basic research as I am from basic researchers such as yourself who think the program is tilted the other way.

With best wishes,

Sincerely yours,

s/B.C. Schmidt

Benno C. Schmidt